# Public Health Reports

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# IN THIS ISSUE

Diseased and Removed Tonsils in Farm Families Studies on Susceptibility to Poliomyelitis



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# Public Health Reports

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# PHYSICAL IMPAIRMENTS OF MEMBERS OF LOW-INCOME FARM FAMILIES—11,490 PERSONS IN 2,477 FARM SECURITY ADMINISTRATION BORROWER FAMILIES, 1940 <sup>1</sup>

# IV. DEFECTIVE TONSILS AND ADENOIDS

By Mary Gover, Associate Statistician, and Jesse B. Yaukey, Statistician, United States Public Health Service

This series of studies is based on physical examination findings for members of low-income farm families in the United States. The prevalence of impairments and chronic diseases as found for samples of our low-income farm population in eastern, central, and southern sections of the country will, it is hoped, be somewhat of a contribution to our knowledge of the normal individual in a population group for which there is little specific information of this sort at the present time. In the absence of a control urban group available data from other sources have been assembled for comparison with the physical examination findings for the low-income farm families.

# SOURCE OF THE DATA

During the period November 1939 through November 1940 the Farm Security Administration made general physical examinations of the members of borrower families residing in selected areas in connection with the health aspects of their rehabilitation program. The physical examinations were conducted by physicians assembled mainly from colleges or universities located in the various sections. The same professional staff frequently worked in adjacent areas. Eye, ear, nose, and throat examinations were made by appropriate spe-

<sup>&</sup>lt;sup>1</sup> From the Division of Public Health Methods, U. S. Public Health Service, in cooperation with the Farm Security Administration, Department of Agriculture. Mr. Yaukey is detailed to the Farm Security Administration.

This is the fourth in a series of papers dealing with physical defects found on examination of members of low-income farm families residing in 19 localities in the United States. The physical findings of the examinations were coded and transferred to puncheards by the Farm Security Administration under the direct supervision of Mr. Jesse B. Yaukey. The data were subsequently made available to the U. S. Public Health Service. Acknowledgment is made to Dr. S. D. Collins for critical suggestions and advice throughout the preparation of the studies.

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cialists, children under 15 years of age were examined by pediatricians, the men by internists, and the women by gynecologists. The mental age tests were conducted by groups of psychologists, and dentists made the dental examinations. The examinations were not made primarily for statistical purposes but rather to determine the health status of farmers and their families applying to the Farm Security Administration for rehabilitation loans. An effort was made to keep the examining procedure as uniform as possible but the results, on the whole, must be considered as representing an average opinion of a relatively small number of examining physicians.

The selected localities consisted, usually, of entire counties and practically all Farm Security Administration borrower families residing within the selected counties came to the clinics for examination; among the white families represented at the clinics 91 percent of all members were examined. Thirteen of the selected areas were located in southern States and six in northern or intermediate States. In nine of the southern counties white and Negro families were examined, the examinations of both whites and Negroes being made by the same physicians. The data, therefore, seem favorable for a racial comparison. There may, however, have been some selection of Negro farmers on the basis of good physical condition since loans were made by the Farm Security Administration to farm operators only, and it is reasonable to expect that Negro farm operators are a somewhat more highly selected group than white operators.

The examined population (9,776 whites and 1,714 Negroes) has a comparatively young age distribution, due probably to the fact that relatively young heads of families were selected for rehabilitation loans. On the whole, the age distribution of the examined population

does not differ widely in the various localities.

With respect to economic status, the Bureau of Agricultural Economics estimates an average annual net income of \$767 per farm for all farms in 1940, while a comparable average annual net income for all rural rehabilitation farms, estimated by the Farm Security Administration, is \$500 in 1940, or approximately 35 percent less than that for all farms.

A somewhat more detailed account of the characteristics of the examined population can be obtained by reference to a preceding study (9) in this series.

#### DEFECTIVE TONSILS AND ADENOIDS

That part of the physical examination form used by the Farm Security Administration for recording the condition of the tonsils was as follows:

Tonsils: Normal \_\_\_\_ Absent \_\_\_ Partially removed \_\_\_\_ Diseased; Slight \_\_\_ Marked \_\_\_ Removal recommended \_\_\_\_ Adenoids:

The data taken from this examination form, therefore, pertain to diseased tonsils; tonsils enlarged but not thought to be diseased were not recorded. It is well known, however, that physicians differ in their opinion of what constitutes diseased tonsils, and that in spite of an attempt at uniformity the judgments of different examiners will vary widely. In three of the southern localities. involving one examiner, enlarged tonsils not considered to be diseased were entered as such on the record form. In coding these records enlarged but not diseased tonsils have been included, mainly, in the slightly diseased tonsil group. The age distribution of the prevalence of enlarged but not diseased tonsils as recorded in these localities is unknown; but the age-specific prevalence of slightly diseased tonsils is markedly higher under 15 years of age in the three localities where enlargement only is known to have been included. Markedly diseased tonsils in these data, therefore, are thought to have been recorded somewhat more uniformly among the several localities. Recommendations for removal of tonsils were, on the whole, conservative, and were based on a past history of repeated attacks of tonsillitis as well as the appearance of the tonsils. The absence of tonsils was recorded on the examination form; the relatively small number of persons with partially removed tonsils has been included with those who have had their tonsils completely removed.

No specific statement regarding adenoids was called for, but the word "adenoids" on the examination form reminded the examiner to record any observed abnormal condition.

In giving the prevalence of diseased tonsils for all localities combined it has seemed advisable to omit five localities, namely, Okfuskee County, Okla., Panola, Williamson, and Runnels Counties, Tex., and Levy County, Fla. In the first four localities named the recorded prevalence of diseased tonsils is so unusually high, including a recommendation for removal of practically all tonsils, that it seems likely that the standard used in these localities, by the one examiner involved, was markedly dissimilar to that used elsewhere. Levy County, Fla., has been omitted from the total because of the unusually high percentage of tonsils removed at 45 years of age and These five localities, however, are included in table 1, where prevalence rates of diseased tonsils are shown in three age groups for separate localities. Aroostook County, Maine, also has been excluded in the rates of slightly diseased tonsils for the North as shown in table 4, because of the extremely high rates recorded in persons over 25 years of age.

Table 1 shows the prevalence of removed, slightly and markedly diseased tonsils, tonsils recommended for removal, and of enlarged

TABLE 1.—Prevalence of defective tonsils and adenoids among white persons in 3 age groups—members of Farm Security Administration borrower families in 19 localities, 1940

			Exan	I beuju	for						Tonsils-	-sli								
Geographic area	State	County	tor 8	tonsils and adenoids	p s	Abse	Absent or par- tially removed	par-	Rem п	Removal recom- mended *	com-	Ма	Markedly dis- eased	dis-	Sligh	Slightly diseased	eased	Aden	Adenoids enlarged	larged
			Under 15 years	15-44 years	years and over	Under 15 years	15-44 years	years and over	Under 15 years	15-44 years	years and over	Under 15 years	15-44 years	years and over	Under 15 years	15-44 years	45 years and over	Under 15 years	15-44 years	45 years and over
			2	Number								1	Percent 3							
New England East North Central West North Central Mountain South Atlantic East South Central West South Central	Maine Ohio Indiana Indiana Missouri Nebraska Colorado Vigorado Vigorado South Carolina Georgia Fiorida Fiorida Arkanass Oklahoma Louisiana Tazas Tazas	Aroostook Champalgin Montgomery Callaway Howard Callaway Howard Avery Kershaw Worth Henderson (Carroll Leflore Humphreys Okfuskee Franklin Panode Williamson Renderson	450 180 181 284 249 278 278 278 278 278 278 278 278 278 278	298 182 182 141 141 165 165 273 273 273 273 273 273 273 273 165 165 165 178 178 178 178 178 178 178 178 178 178	2427 E E E E E E E E E E E E E E E E E E E	14.00. 2 2 20 .	2012 2012 2012 2012 2012 2012 2012 2012	6.88.88.89.41.12.13.42.12.13.42.12.13.42.1	18. 22. 22. 22. 25. 25. 25. 25. 25. 25. 25	35.7 20.2 20.2 20.2 20.2 20.2 20.2 20.2 20	0.000000000000000000000000000000000000	1.55.04.81.05.05.05.4. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8.	16.01 16.01 17.02 17.03	12.1.42.1.44 1.0.0.0.1.2.1.44 1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	33.00 3.00	58. 177.7.1 177.7.1 18.5.2	70. 170. 170. 170. 170. 170. 170. 170. 1	1.7.7.9.1.7.2.3.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	40   00   00   00   00   00   00   00	公式 - 1   公二   二 一 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
14 localities 4	J 62.08	Kunnees.	1	3,010 1,081	1,081	0. 4	12.2		1 0	20 02	22. 4 20.	22.4 20.0 6.	22.4 20.0 6.8 11	22.4 20.0 6.8 11.9 12.	22.4 20.0 6.8 11.9 12.8 7.	22 4 20.0 6.8 11.9 12.8 7.4	99 4 99 0 6 8 11 9 19 9 7 4 40 0 38	22.4 20.0 6.8 11.9 12.8 7.4 40.0 35.7 27	22.4 20.0 6.8 11.9 12.8 7.4 40.0 38.7 27.1 20.	22.4 20.0 6.8 11.9 12.8 7.4 40.0 35.7 27.1 20.2 5.

i One examiner examined ears, nose, and throat in each of the following groups of States: Maine, Missouri, and Viginis; Nebraska and Colorado; Mississippi, Arkansas, and Louisians; Oklahoma and Texas.

\* Recommendations for removal of tonsils were based on a past history of frequent attacks of tonsillitis as well as the appearance of the tonsils.

• Oktuskee County, Okla., and Panola, Williamson, and Runnels Counties, Tex., have been omitted from the total of all localities since the standard used in these counties was markedly dissimilar to that used elsewhere; Levy County, Fla., has been omitted because of the unusually high percentage of removed tonsils at 45 years of age and over. Percentages for these 5 localities are printed in italies.

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adenoids for white persons in 3 age groups in each of 19 localities. Only 5 percent of children under 15 years in a total of 14 localities had had their tonsils removed; and 12 percent of persons 15 to 44 years of age. In 4 localities only, Aroostook County, Maine, Montgomery County, Ind., Howard County, Nebr., and Phillips County, Colo., are there 20 percent or more of persons 15 to 44 years of age who have had their tonsils removed. In the 6 northern localities the percentage of persons who have had their tonsils removed is either the same as or significantly above the average of the 14 localities; while in the 8 southern localities it is the same as or significantly below the average. Variation in the prevalence of diseased tonsils is considerable among the various localities, and is greater for slightly than for markedly diseased. High rates for slightly diseased tonsils show no particular concentration in North or South except for the high rates under 15 years of age recorded for Pope County, Ark., and Franklin Parish, La. High rates for markedly diseased tonsils, however, occur slightly more often in the northern than southern localities.

Tonsillectomy is comparatively rare among members of Farm Security Administration borrower families, particularly in the southern areas (table 4 and fig. 1). Figure 1 shows the age-specific percentage of persons who had had tonsillectomy performed prior to examination for members of northern and southern rural borrower families compared with the same percentages for children from city families of varying family income. The urban percentages (fig. 1) are unpublished data of the Communicable Disease Survey, 1936 (6), and pertain to children of native white heads of families residing in 23 surveyed cities of 100,000 or more population in the northeast, north central. intermediate, and southern sections of the country. The frequency at which tonsillectomy is performed is obviously associated with clinic and hospital facilities available in urban areas; and also with size of family income. Even in the relief group of urban families the percentage of children who have had tonsillectomy performed is higher than the same percentage for children of rural rehabilitation families; the largest relative difference is at 5 to 9 years of age. Among urban families of relief status and among urban families with incomes of \$3,000 or more, 2 and 5 times as many children, respectively, at 5 to 9 years of age, have had tonsillectomy performed as have children of rehabilitation borrower families in northern localities. In southern localities the contrast is even more marked; 13 and 28 times as many urban children of the same income groups, respectively, had had tonsillectomy performed as have children of borrower families. If the percentage of children, 5 to 9 years of age, with tonsils recommended for removal is added to the percentage with tonsils already

#### REMOVED TONSILS

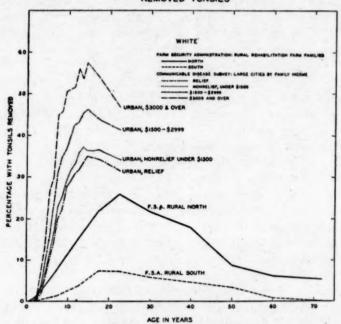


FIGURE 1.—Percentage of persons at specific ages who had had tonsillectomy performed prior to examination or to the date of survey among (1) members of Farm Security Administration borrower families in northern and southern localities, 1940, and (2) children of urban families by size of annual family income, 1936 (unpublished data of the Communicable Disease Survey. Large cities in northeast, north central, intermediate, and southern sections).

removed, northern and southern borrower families show 28 and 33 percent of children, respectively, who according to the opinion of the examining physician should have their tonsils removed. These percentages are in line with the percentages of children of urban families who have had tonsillectomy performed and are exceeded significantly, at 5 to 9 years of age, only for families of \$3,000 or more income.

The age at which tonsillectomy is performed can be approximated from the percentages of persons whose tonsils were removed prior to examination by subtracting these successive age-specific percentages, since increase in prevalence from age to age represents occurrence between those ages. Incidence rates obtained by subtracting successive age-specific prevalence rates may differ from the observed annual incidence for a specific year, since the derived rates represent an average incidence based on all prior years, and also may be influenced by possible time trends in actual incidence rates. This method of calculating age-specific tonsillectomy rates assumes the same rate to prevail from year to year or a uniform change in the rate at every age.

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To the extent that this assumption is true the results secured by this method are accurate.<sup>2</sup> For each income group of the urban data (fig. 1) the maximum current tonsillectomy rate, approximated by subtracting successive age-specific prevalence rates, occurs between 5 and 9 years of age or approximately at 7 years, the age of school entrance. Among children of rehabilitation farm families, however, there is no marked increase in the tonsillectomy rate at the age of school entrance; tonsillectomy was probably performed only in cases of marked illness among these farm children and not, in the majority of cases at least, for minor tonsillar conditions.

Figure 2 shows the annual age-specific incidence of tonsillectomy in northern and southern rural areas for members of Farm Security Administration borrower families and for comparable groups. Communicable Disease Survey (6) data were secured by a 1-day canvass of selected areas in cities of 100,000 or more inhabitants; annual incidence rates of tonsillectomy have been obtained by subtracting successive age-specific prevalence rates for single years of age as reported on the survey.3 The Communicable Disease Survey was comparatively recent (1936) and shows relatively high rates of tonsillectomy for preschool ages and at school entrance. The Costs of Medical Care (4) data give an annual incidence of tonsillectomy in cities of 100,000 or more population and in rural areas,3 observed during 1928-31; the data were secured by local visiting nurses and therefore pertain to both urban and rural areas provided with visiting nurse services. The Costs of Medical Care data show higher tonsillectomy rates in cities of 100,000 or more population than in rural areas; a marked peak in the rates occurs at 5-9 years of age in both urban and rural areas. The Cattaraugus County, N. Y. (14), data also give the annual incidence of tonsillectomy which occurred in a rural population.3 including only one village of approximately 1,000 inhabitants.

<sup>&</sup>lt;sup>3</sup> A very rough index of the rate at which tonsillectomy has been performed in recent decades can be gained from the following table, which gives annual incidence in the Army and Navy during three 5-year periods from 1908 to 1937:

Year -	Army (5, 16)	Navy (5, 15)
Annual tonsillectomy rate per 1,000		
1908–12	3.1	2.0
1923–27 1933–37	18. 9 20. 0	24. 3 27. 7

The rate at which tonsillectomy was performed in the Army and Navy increased markedly from approximately 1910 to 1925; from 1925 to 1935, however, the observed increase was relatively slight. With respect to the rural rehabilitation families, the tonsillectomy rate is so low that there could scarcely have been a marked time trend in the rate for this group in recent years.

<sup>3</sup> Unpublished data.

#### TONSILLECTOMY

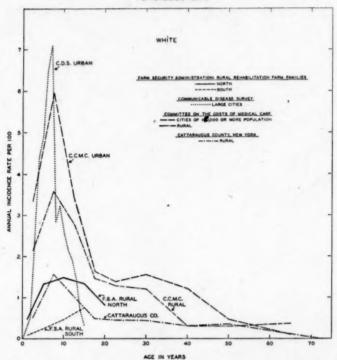


FIGURE 2.—Annual incidence of tonsillectomy at specific ages in urban and rural areas. For the Farm Security Administration examinations and for the Communicable Disease Survey, annual incidence was obtained by subtracting successive age-specific prevalence.

observed during 1929-32. The rate at which tonsillectomy was performed in Cattaraugus County, N. Y., does not differ greatly from that for the northern group of Farm Security Administration borrower families; there may be, however, a somewhat higher rate at 10 to 20 years of age among the borrower families. The annual incidence of tonsillectomy is low in the southern group of Farm Security Administration borrower families and continues to increase until 15 years of age.

The prevalence of enlarged and diseased tonsils among school children reported by different examiners has led to the conclusion that comparisons of absolute values of prevalence rates cannot be made because of the variation in standard of the examining physicians. Relative age curves of the prevalence of diseased tonsils, however, are found to be fairly consistent. Collins (3) combined data from three sources, for preschool, school, and adult ages to obtain a complete relative age curve of the prevalence of enlarged and diseased tonsils. These curves are reproduced in figure 3, the plotted point for each age group representing the ratio of the rate in that age group to the rate for all ages. Figure 3 also contains relative age curves of the prevalence of slightly and markedly diseased tonsils

#### DEFECTIVE TONSILS

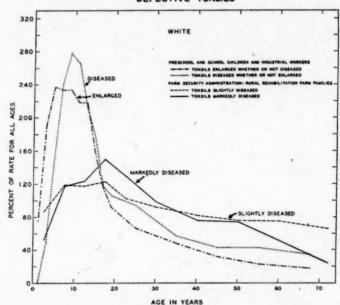


FIGURE 3.—Relative prevalence of defective tonsils at specific ages as found on physical examination: (1) members of Farm Security Administration borrower families, 1940, and (2) composite curves from Collins (3).

(ratio of the rate in each age group to the rate for all ages) as obtained from examinations of members of Farm Security Administration borrower families. The striking difference between the two sets of curves is the relatively low rates under 20 years, or conversely the relatively high rates over 20 years of age in the Farm Security Administration examinations. It must be remembered that the rates as plotted in figure 3 are on an index basis and that the actual rates for diseased tonsils (tables 2, 3A, and 3B) are considerably higher in every age group for the Farm Security Administration examinations than in any of the data which Collins combined to obtain the relative age curve. In Collins' data the prevalence of diseased tonsils increased up to 9 or 10 years of age, decreasing thereafter. In the Farm Security Administration examinations the rates also increase rapidly until 10 years of age; from 10 to 20 years of age prevalence rates for slightly diseased tonsils are practically level, while rates for markedly diseased tonsils increase somewhat. After 10 years of age among the school children reported upon by Collins and after 20 years of age among children of rural rehabilitation farm families the prevalence of diseased tonsils declines in successive age groups. Because of the recorded high prevalence of diseased tonsils among rehabilitation farm families, the continued increase in prevalence from 10 to 20 years, and the relatively high prevalence among

adults over 20 years, it seems not unlikely that the prevalence of diseased tonsils among these low-income farm families is fairly high in comparison with other examined groups and relatively higher among adults than among children.

The prevalence of diseased tonsils probably does not vary greatly in urban and rural areas, especially when differences in the rate at which tonsillectomy has been performed are taken into account. The National Youth Administration (10) health examinations of

TABLE 2.—Prevalence of defective tonsils and adenoids among white persons in specific age groups—members of Farm Security Administration borrower families in a total of 14 localities, 1940 1

Examined for tonsils and adenoids  Number  7, 548  952 1, 209 1, 296 809 364 883 954 696	7.8 -6 4.1 8.5 13.0 14.8 12.7	Both	Markedly diseased  Percent  Sexes  11.6 6.1 13.7	Slightly diseased  36.5  31.6  43.5	Adenoids enlarged
7, 548 952 1, 209 1, 296 809 364 883 954	.6 4.1 8.5 13.0 14.8	9. 8 27. 0 27. 2	11. 6 6. 1 13. 7	31.6 43.5	11.3
952 1, 209 1, 296 809 364 883 954	.6 4.1 8.5 13.0 14.8	9. 8 27. 0 27. 2	11.6 6.1 13.7	31.6 43.5	11.3
952 1, 209 1, 296 809 364 883 954	.6 4.1 8.5 13.0 14.8	9. 8 27. 0 27. 2	6. 1 13. 7	31.6 43.5	11.3
1, 209 1, 296 809 364 883 954	4. 1 8. 5 13. 0 14. 8	27. 0 27. 2	13.7	43, 5	
809 364 883 954	13. 0 14. 8		14.4		25.
883 954	14. 8 12. 7	33. 7	17.4	43. 0 45. 0	22. 13.
954	14-1	22. 8 14. 4	15.1 11.4	37. 4 33. 5	3.1
	. 10.6	12.7	8.8	29.8	1.1
	6.0	7.5	8.6	27.6	1.3
277 108	3.6 2.8	6. 5 2. 8	6. 1 2. 8	27. 4 24. 1	2. 3.
		M	ale		
3, 835	7.6	19.4	11.6	35.0	11.1
453	.4	10. 2	7.7	30.0	11. 8
	4.5				26.4
	11.8				22. 7 13. 8
145	17.2	24.8	17. 9	29.0	4.1
			11.6		1. 7
					2.8
181	3.3	5.0	5.0	23.8	1.1
			1	20.0	
3, 713	8.1	19.0	11.5	38.1	11.2
		0.4		99.1	11.2
		26.6	13. 1	44.5	23. 7
631	8.2	26. 5	15. 5	40.7	21. 4
					13. 0
					2.3
475	9.9	12.4	7.8	33. 7	1.3
					1.3
		9.4	8.3		4. 2 5. 7
	3, 835 453 622 665 423 145 405 479 389 181 73 3, 713 499 587 631 386 219	3,835 7.6 453 4.5 622 4.5 665 8.7 423 11.8 145 17.2 405 11.6 479 11.3 389 5.4 181 3.3 73 2.7  3,713 8.1 499 8 587 8.6 631 8.2 219 13.2 478 13.6 475 9.9 307 6.8	277	Male   Male	Male   Male

<sup>&</sup>lt;sup>1</sup> The 14 localities are as listed in table 1 exclusive of Levy County, Fla., Okfuskee County, Okla., and Panola, Williamson, and Runnels Counties, Tex.
<sup>2</sup> Recommendations for removal of tonsils were based on a past history of frequent attacks of tonsillitis as well as the appearance of the tonsils.

Table 3A.—Prevalence of defective tonsils among white children in specific age groups—data comparable with the Farm Security Administration examination of

	Preschool	children 1		School e	hildren 3
Age (years)	Boys	Girls	Age (years)	Boys	Giris
	Perc	cent		Per	cent
2 3 4 5 6 7	2. 3 6. 8 10. 6 17. 5 21. 0 20. 4	1. 6 6. 5 9. 5 16. 7 23. 0 19. 7	6-7. 8-9. 10-11. 12-13. 14-19.	14. 7 17. 9 15. 9 12. 4 11. 9	14. 0 16. 9 16. 6 13. 3 9. 8

From Rude (11). Percentage of children with diseased tonsils, Gary, Ind., 1918. For the age group 2-7 years, 2.5 percent of children had had their tonsils removed.
 From Collins (3). Percentage of children with diseased tonsils for an average of 4 localities; Pinellas County, Fla., 1921-22; Dunklin and New Madrid Counties, Mo., 1922-23; Orange County, Fla., 1921-22; and Hagerstown, Md., 1923-24. For the age group 6-19 years, 16.3, 1.9, 14.5, and 11.6 percent of children had had their tonsils removed in the 4 localities, respectively.

Table 3B.—Prevalence of defective tonsils among white adults in specific age groupsdata comparable with the Farm Security Administration examination of tonsils

		Life Ex	tension In	stitute				-		l Youth istration
		M	ale							1
Age (years)		Profession ness, an trade	nal, busi- id skilled	Agricul-	Total female 3	Sur- veyed indus- tries (male) 4	Col- lege womens	Balti- more (both sexes)	Male	Female
	Total 1	New York City (head) *	Other cities (field) 3	tural (field) <sup>2</sup>						1,000
					Percen	it	''			!
Under 15						14.7	30.7	33. 5	99.0	
20-24 25-29	36.0 36.4	61. 0 64, 7	31. 2 31. 4	29. 0 23. 6	36.7	17.0	31. 5	10	22. 9 20. 0	} 21.7
30-34 35-39 40-44	32.1	64.8	26. 8	21. 2	33.6	14.5	31.7	17.2		
45-49 50-54	26.7	58. 3	21.9	16. 2	32.2	10.4		11.2	*******	
55-59 60-64 65 and over	} 21.5 17.6	50. 6 48. 2	17.3	13.6	25. 4	5.3			7	

<sup>&</sup>lt;sup>1</sup> From Sydenstricker and Britten (12). Percentage of persons with enlarged, cryptic, diseased, or buried tonsils, 1922 to about 1925. No record is given of the number of persons whose tonsils had been removed; since the examinations were of adults and were made between 1922 and 1925 the percentage of persons who had had their tonsils removed was probably small.

<sup>2</sup> From Sydenstricker and Britten (13). Same as note 1, this table.

<sup>3</sup> From Britten (1). Same as note 1, this table.

<sup>4</sup> Data from Britten and Thompson published by Collins (3). Percentage of persons with diseased tonsils, 1914-21. No record is given of the number of persons whose tonsils had been removed; the percentage, however, was probably small.

<sup>4</sup> From Cunningham (7). Percentage of persons with pathologic, buried, or projecting tonsils. Students of the University of California. About 1920-29. For the age group 15-34 years, 35.6 percent of women students had had their tonsils removed.

<sup>4</sup> From Gafafer (8). Percentage of persons with inflamed tonsils, whether or not enlarged. Healthy persons participating in the John J. Abel research on the common cold, 1928-30. Under 15 years of age 30.2 percent and over 15 years of age 35.1 percent of persons had had their tonsils removed.

<sup>7</sup> From McDowell and Meroney (10). Percentage of persons with diseased tonsils, 1941. For the age group 16-24 years, 29.6 percent had had their tonsils removed.

youth aged 16 to 24 years, made in 1941, show a higher tonsillectomy rate in urban than in rural areas, 45 and 19 percent, respectively: and a lower rate of diseased tonsils in urban than in rural areas, 15 and 27 percent, respectively, for whites. The first and second million men examined by the Army in 1917-18 (17), including both accepted and rejected men, 18 to 30 years, show urban and rural rates for diseased tonsils of 24.0 and 23.5 percent, respectively. Whereas within each State urban and rural rates are about the same, both urban and rural rates vary considerably from State to State. The prevalence of men with removed tonsils is not given in the Army records but tonsillectomy was relatively infrequent in 1917-18 as compared with 1941.

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Table 4 shows the age-specific prevalence of persons with removed and diseased tonsils among members of northern and southern Farm Security Administration borrower families. The prevalence of persons who have had their tonsils removed is approximately four times as great in the North as in the South; relative age prevalence. however, is practically identical in the two sections. Slightly diseased tonsils are recorded as more prevalent in southern, markedly diseased as more prevalent in northern localities; about the same percentage. however, was recommended for removal in both North and South. The prevalence of both slightly and markedly diseased tonsils has a younger age distribution in the South than the North.

Table 4.—Prevalence of defective tonsils and adenoids among white persons in specific age groups for North and South 1—members of Farm Security Administration borrower families, 1940

						Tons	sils					
Age (years)	Examination tonsil aden	s and	Abser parti remo	ally	Rem		Mark dise		Sligh		Ader	
	North	South	North	South	North	South	North	South	North	South	North	South
	Nun	ber					Perc	ent				
All ages Under 5	3, 257 415	4, 291 537	13.3	3.7	18. 2 5. 8	19. 9 12. 8	15. 0 5. 3	8.9 6.7	19.9 16.4	43.0 38.9	7.3 8.4	14.8
5–9 10–14 15–19	501 540 311	708 756 498	7. 8 15. 2 21. 9	1.4 3.7 7.4	20. 2 22. 2 38. 3	31.9 30.7 30.9	14. 4 16. 3 24. 4	13.3 13.1 13.1	18.7 20.6 19.6	56. 4 54. 2 53. 0	17. 8 12. 4 5. 1	30. 2 29. 0 18. 3
20-24 25-34 35-44	146 376 425	218 507 529	26. 0 21. 8 17. 9	7.3 5.9 4.7	25. 3 16. 2 18. 4	21. 1 13. 0 8. 1	21. 9 17. 8 15. 5	10.6 6.7 3.4	18. 4 23. 1 18. 3	43.6 37.7 30.8	2.1 .5 2.4	5.0 3.2 1.5
45-54 55-64 65 and over	340 146 57	356 131 51	8.8 6.2 5.3	3.4	10. 3 11. 6 3. 5	4.8	13. 8 11. 0 5. 3	3.7	22. 6 22. 1 18. 2	23. 9 15. 3 13. 7	1.8 3.4 7.0	.8

<sup>1</sup> The localities included are: Alties included are:
Arostook County, Maine, Champaign County, Ohio, Montgomery County, Ind. Callaway County, Mo., Howard County, Nebr., and Phillips County, Colo. Aroostook County. Maine, is not included in the rate for slightly diseased tonsils because of the unusually high prevalence recorded for ages over 20 years.
Spotsylvania County, Va., Avery County, N. C., Kershaw County, S. C., Worth County. Ga., Henderson County, Tenn., parts of Carroll, Leflore, and Humphreys Counties, Miss., Pope County, Ark., and Franklin Parish, La.

South:

June 22, 1945 706

Prevalence rates of diseased tonsils have been examined by separate locality and examiner. In the 14 localities there were 9 examiners, 2 of whom made examinations in 3 localities, 1 in 2 localities, the remaining 6 physicians examining in 1 locality each (footnote to table 1). Not only the actual prevalence of diseased tonsils, but also the relative age-specific prevalence varies greatly by locality and by examiner. Because of the small number of examiners involved it is impossible to say that there is any marked difference in the prevalence of diseased tonsils in North and South as shown by these data. Army rates for diseased tonsils found on examination of the first and second million men, 18 to 30 years (1917–18) (17), are variable by State but show no consistent sectional differences.

Diseased tonsils are about as prevalent among males as females in these data, the only difference being somewhat higher rates of slightly diseased tonsils for females than males after 20 years of age (table 2 and fig. 4). The Negro rates are more variable than the white but

DEFECTIVE TONSILS

# ABSENT OR PARTIALLY REMOVED MALE FEMALE RECOMMENDED FOR REMOVAL FEMALE SLIGHTLY DISEASED 10 PEMALE SLIGHTLY DISEASED 10

FIGURE 4.—Male and female age-specific prevalence of diseased tonsils and tonsils absent or recommended for removal, as found on physical examination of members of Farm Security Administration borrower white families in a total of 14 localities, 1940.

point to the same general conclusion (table 5). The Life Extension Institute data also show a less rapid decline in the rates for defective tonsils among women than men after 20 years of age (table 3B).

Table 5 and figure 5 show a comparison of the prevalence of persons with removed and diseased tonsils for whites and Negroes in six localities where Negroes were examined. Almost no tonsillectomies have been done among Negroes, and very few among southern whites; approximately only 3 and 7 percent of persons have had their tonsils removed by 25 years of age among Negroes and southern whites,

Table 5.—Prevalence of defective tonsils and adenoids among Negro and white persons in specific age groups—members of Farm Security Administration borrower families in a total of 6 localities, 1940 1

			N	egro					W	hite		
	nsils		Ton	sils—			nsils		Ton	sils—		1
Age (years)	Examined for tonsils and adenoids	Absent or par- tially removed	Removal recom- mended 2	Markedly dis-	Slightly diseased	Adenoids enlarged	Examined for tonsils and adenoids	Absent or par- tially removed	Removal recom- mended 2	Markedly dis-	Slightly diseased	Adenoids enlarged
	Num- ber			Percen	t		Number			Percen	t	
	*					Both	sexes					
All ages	1, 15C	0.4	21.1	18.8	31.3	10.3	3, 525	4.1	19.0	9.4	44. 4	16.
Under 5. 5-9. 10-14. 15-19. 20-24. 22-34. 35-44. 45-54. 65-64. 65 and over.	146 197 213 163 60 78 112 111 52 18	3.3 1.3	20. 5 32. 0 41. 3 20. 9 13. 3 7. 7 6. 2 1. 8 9. 6	24.7 25.4 36.6 16.0 10.0 10.3 5.4 3.6 3.8	24. 0 41. 1 38. 0 35. 6 35. 0 25. 6 24. 1 19. 8 19. 2 27. 8	9.6 19.8 19.2 9.2 5.0 1.3 .9 2.7 1.9	438 591 635 417 165 413 431 294 108 33	1.7 4.3 7.4 9.1 6.8 5.1 3.4	14. 8 34. 0 31. 7 26. 4 13. 3 9. 4 4. 4 3. 4 . 9 3. 0	8.0 15.6 13.7 12.0 8.5 6.5 3.2 3.7	42. 9 56. 3 55. 1 55. 4 46. 7 39. 5 30. 2 23. 8 14. 8 18. 2	15. 32. 29. 20. 6. 3. 1.
						M	ale					
All ages	576	0.3	20.0	17.9	28.0	10.8	1,794	4.5	19.7	8.9	42.0	16.3
Under 5	66 96 119 76 31 29 43 66 37 13	1.0	15. 2 32. 3 35. 3 22. 4 12. 9 10. 3 9. 3 1. 5 8. 1	18. 2 27. 1 29. 4 18. 4 12. 9 17. 2 7. 0 4. 5 2. 7	22. 7 37. 5 38. 7 30. 3 25. 8 27. 6 18. 6 13. 6 13. 5 23. 1	9. 1 21. 9 15. 1 13. 2 9. 7 3. 4 3. 0 2. 7	207 301 331 213 60 196 215 173 75 23	2.3 5.4 8.0 6.7 7.1 6.0 3.5 1.3	16. 9 34. 6 34. 1 30. 0 10. 0 11. 2 3. 3 1. 2	11. 1 15. 6 13. 6 10. 3 6. 7 4. 6 2. 8 2. 3	39.1 55.1 58.3 55.4 36.7 38.3 27.0 18.5 9.3 8.7	15. 9 33. 6 29. 3 21. 1 8. 3 3. 1 1. 9 1. 2
				-117		Fer	nale					
All ages	574	0.5	22.3	19.7	34.7	9.8	1,731	*3.8	18. 2	9. 9	46.8	16. 2
Under 5	80 101 94 87 29 49 69 45 15	6.9	25. 0 31. 7 48. 9 19. 5 13. 8 6. 1 4. 3 2. 2 13. 3	30.0 23.8 45.7 13.8 6.9 6.1 4.3 2.2 6.7	25. 0 44. 6 37. 2 40. 2 44. 8 24. 5 27. 5 28. 9 33. 3 40. 0	10. 0 17. 8 24. 5 5. 7	231 290 304 204 105 217 216 121 33 10	1.0 3.0 6.9 10.5 6.5 4.2 3.3	13. 0 33. 4 28. 9 22. 5 15. 2 7. 8 5. 6 6. 6 3. 0	5. 2 15. 5 13. 8 13. 7 9. 5 8. 3 3. 7 5. 8 3. 0	46. 3 57. 6 51. 6 55. 4 52. 4 40. 6 33. 3 31. 4 27. 3 40. 0	15. 6 31. 7 30. 3 19. 6 5. 7 4. 6 1. 4

<sup>&</sup>lt;sup>1</sup>The 6 localities are: Spotsylvania County, Va., Kershaw County, S. C., Worth County, Ga., parts of Carroll. Leflore, and Humphreys Counties, Miss., Pope County, Ark., and Franklin Parish, La.

<sup>2</sup> Recommendations for removal of tonsils were based on a past history of frequent attacks of tonsillitis as well as the appearance of the tonsils.

#### DEFECTIVE TONSILS

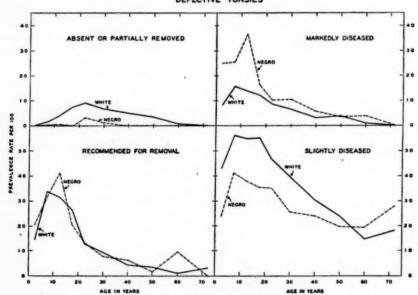


Figure 5.—Negro and white age-specific prevalence of diseased tonsils and tonsils absent or recommended for removal, as found on physical examination of members of Farm Security Administration borrower families in a total of 6 localities, 1940.

respectively. The recorded prevalence of diseased tonsils, per 100 examined, is practically the same for whites and Negroes; the recorded rates for markedly diseased tonsils, however, are higher while those for slightly diseased are lower for Negroes. The age-specific percentages of persons with tonsils recommended for removal are the same for whites and Negroes. Collins (3) concluded from examinations of white and Negro school children in Memphis, Tenn., Hagerstown, Md., and Orange and Pinellas Counties, Fla., "that there is no marked difference in the extent of tonsil infection in the two races when the difference in the frequency of tonsillectomy is taken into account." The examination of NYA youth (10) 16 to 24 years of age gives a prevalence rate for diseased tonsils of 22.1 percent for whites and 25.9 percent for Negroes, with 30.0 percent of tonsils removed for whites and 17.4 percent for Negroes.

Figure 6 shows a sex and color comparison of the prevalence of enlarged adenoids among Farm Security Administration borrower families. White male and female age-specific rates are practically identical; recorded white rates are significantly higher than Negro for ages under 20 years.

### SUMMARY

In the Farm Security Administration physical examinations of rural rehabilitation farmers and their families, the condition of the tonsils was recorded by the examiner as normal, absent, slightly diseased, or

#### ENLARGED ADENOIDS

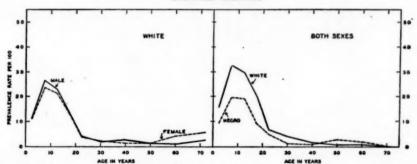


Figure 6.—Prevalence of enlarged adenoids at specific ages among males and females and among Negroes and whites as found on physical examination of members of Farm Security Administration borrower families in a total of 14 and 6 localities, respectively, 1940.

markedly diseased, with a recommendation for removal when indicated. In the majority of cases tonsils enlarged but not diseased were recorded as normal. A marked variation in the recorded results of different examiners exists both in respect to the actual prevalence rates and in the relative age prevalence of diseased tonsils. Prevalence under 15 years of age in separate localities varies from 5 to 24 percent for markedly diseased and from 11 to 45 and even 75 percent for slightly diseased tonsils.

The tonsillectomy rate is comparatively low in these low-income farm families, only 5 percent of white persons under 15 years and 12 percent at 15 to 44 years of age have had their tonsils removed. Tonsillectomy is significantly less frequent in southern than in northern localities, approximately 7 and 26 percent of persons, respectively, have had tonsillectomy performed by 25 years of age. Among Negroes only 3 percent have had their tonsils removed by 25 years of age. Children of rural borrower families have lower tonsillectomy rates than children belonging to the lowest income group of urban families. The high incidence of tonsillectomy at the age of school entrance, 5 to 9 years, which is characteristic of urban rates, is not seen in the rates for children of rural borrower families.

Relative age curves of the prevalence of diseased tonsils among members of rehabilitation families show a rapid increase in the rates until 10 years of age, followed at 15–19 years by a somewhat slower increase for both slightly and markedly diseased tonsils, with a decline in the rates after 20 years of age. The recorded prevalence of diseased tonsils is somewhat high among Farm Security Administration borrower families compared with other examined groups and is relatively high over 20 years of age.

Males and females show similar prevalence rates of diseased tonsils. Rates for whites and Negroes are not greatly dissimilar when the prevalence of removed tonsils is taken into account.

#### REFERENCES

(1) Britten, Rollo H.: Sex differences in the physical impairments of adult life: A comparison of rates among men and women, based on 113,618 medical examinations of the Life Extension Institute. Am. J. Hyg., 13: 741-779 (1931).

 13: 741-779 (1931).
 Britten, Rollo H., and Thompson, L. R.: The data for surveyed industries as given by Collins, Selwyn D., in the appendix to: The Health of the School Child. Pub. Health Bull. 200, 1931.
 Collins, Selwyn D.: An epidemiological and statistical study of tonsillitis. Pub. Health Bull. 175, 1926. (4) Collins, Selwyn D.: Causes of illness in 9,000 families, based on Nation-wide

periodic canvasses, 1928–1931. Pub. Health Rep., 48: 283–308 (1933).

(5) Collins, Selwyn D.; Frequency of surgical procedures among 9,000 families based on Nation-wide periodic canvasses, 1928-1931. Pub. Health Rep.,

53: 587-628 (1938)

(6) Collins, Selwyn D., Wheeler, Ralph E., and Shannon, Robert D.: The occurrence of whooping cough, chickenpox, mumps, measles, and German measles in 200,000 surveyed families in 28 large cities. Special Study Series, No. 1. Division of Public Health Methods, National Institute of Health, 1942.

(7) Cunningham, Ruby L.: Normal, absent and pathological tonsils in young women. Arch. Int. Med., 47: 513-547 (1931).

429-441 Apr. 20, 1945).

(10) McDowell, Arthur J., and Meroney, Thomas H.: The Health Status of N. Y. A. Youth. National Youth Administration, Federal Security

Agency, 1942.

(11) Rude, Anna E.: Physical status of preschool children. Children's Bureau

Publication No. 111, 1922.

(12) Sydenstricker, Edgar, and Britten, Rollo H.: The physical impairments of adult life. Prevalence at different ages, based on medical examinations by the Life Extension Institute of 100,924 white male life insurance policy-

the Life Extension Institute of 100,924 white male life insurance policyholders since 1921. Am. J. Hyg., 11: 73-135 (1930).
(13) Sydenstricker, Edgar, and Britten, Rollo H.: Physical impairments and occupational class. Pub. Health Rep., 45: 1927-1962 (1930).
(14) Sydenstricker, Edgar, and Collins, Selwyn D.: Age incidence of communicable diseases in a rural population. Pub. Health Rep., 46: 100-113 (1931).
(15) United States Navy Department: Annual report of the Surgeon General, United States Navy

United States Navy.
(16) United States War Department: Annual report of the Surgeon General,

United States Army

(17) United States War Department: Defects found in drafted men. Government Printing Office. 1920.

# STUDIES ON SUSCEPTIBILITY TO POLIOMYELITIS 1

By CHARLES ARMSTRONG, Medical Director and Dorland J. Davis, Surgeon, United States Public Health Service

Individuals effectively exposed to poliomyelitis may react quite differently, some developing constitutional symptoms with paralysis while at the other extreme are individuals who harbor the virus for an indeterminate period but show no symptoms recognizable as due

<sup>1</sup> From the Division of Infectious Diseases, National Institute of Health.

to the disease. The reason for this difference in clinical response following exposure to the virus as shown by different individuals is, however, unknown and still a matter for interesting speculation, as is the actual reason for the common occurrence of virus-neutralizing antibodies in serums collected from the general population.

In 1930 Aycock and Kramer (1) found complete agreement in the ability of serums from 12 mothers and their newly born offspring to neutralize poliomyelitis passage virus in rhesus monkeys. In 1941 Armstrong (2) confirmed these results in serums supplied through the courtesy of Columbia Hospital, Washington, D. C., from 23 mothers and their infants, employing the Lansing strain of virus in white mice (table 1).<sup>2</sup> The combined results of these two studies showed that among 35 pairs of serums, 22 neutralized, <sup>3</sup> 7 partially neutralized, and 6 (17 percent) were negative. It is, therefore, hatural to wonder whether the offspring of serum-negative mothers might be more susceptible to recognizable poliomyelitis than the offspring from serum-immune mothers.

The best way to answer this question would be to determine the serum-immunity status of a large group of mothers at the time of delivery and then follow their offspring for a number of years to observe the occurrence of poliomyelitis among them. The low incidence of the disease and the difficulty of maintaining contact with a sufficiently large group of children over a period of years, however, renders this method impracticable.

In 1937, Brodie, Fischer, and Stillerman (4) tested 82 serums collected from patients during the first week of a paralytic attack of poliomyelitis and found 68 (83 percent) which failed to neutralize their F1 passage strain of poliomyelitis virus in rhesus monkeys. Moreover, they tested 22 of these serums against a strain of virus isolated from the outbreak under study and in every instance the results remained unchanged from those found with the F1 strain of virus. From this group of 68 serum-negative individuals, a retest was done on 39 serums collected at intervals up to 1 year after the attack and the authors found only 2 serums (5 percent) which had changed to positive. Haas and Armstrong in 1940, employing the Lansing strain of virus in white mice, studied serums from 22 paralytic cases and found no demonstrable antibodies in 13 (59 percent) collected from 7 to 12 months following the acute attack. Similar findings have been observed by others. If this tendency for approximately 70 percent of the above-mentioned paralytic cases to develop antibodies slowly, if at all, following a recognizable attack is an inherited characteristic, it is possible that the fathers and mothers of

<sup>&</sup>lt;sup>6</sup> The neutralization tests were performed by the method described by Haas and Armstrong (3), 1940.

<sup>&</sup>lt;sup>2</sup> Neutralizing antibodies present in the newborn probably disappear within a few months.

TABLE 1.—Virus-neutralizing properties of the serums of newborn infants compared to their mothers employing, Lansing strain of virus and 12

		mı	mice for each serum, Washington, D. C., 1941	r ea	ch s	erui	n, 1	ash	ung	ou,	0.	:	1841												
Number of paired serums	Number of paired serums.		-	64	-	10	9	1.	90	0	10	=	12	13	11	15	91	7 8 9 10 11 12 13 14 15 16 17 18	18	19 20	20	21	22	83	
		Non	NUUMBER OF MICE SURVIVING FROM 12 INOCULATED	OF M	ICE S	URVE	PING	FROM	121	Nocu	LATE	9												50	Total surviving
Mother serums			04 -	10 00	0 -	8 12	9 12	12 12	- 0		2 11 11	1 2	01 01	0 9	8 C		3 12	oc 0		0 12		7 10	10	10 0	171
Degree protection					+	+	+		1	+	#	+	#	#	#	+	#	#	#	1	: ‡	+	1	+	
	- = No protection, 4.				+	Veak	prot	+=Weak protection, 5.	1, 5.						+	# St	rong	++=Strong protection, 14.	ction	0, 14	1.				
Table 2.—Virus neul	TABLE 2.—Virus neutralization with serums from mothers and fathers of paralyzed poliomyelitis patients—North Carolina outbreak, 1944, employing the Lansing strain of virus in white mice	fro	s from mothers and fathers of paralyzed poliomieli employing the Lansing strain of virus in white mice	othe	rs a	nd	fath g st	rain	of	aral	yzed in	po	liom ite n	ijeli	tis	pati	ents	N	orth	Ca	roli	na	outh	eak	194
The state of the s	Sex F M	MM	(Eq.	F F M M F M M	M	M	-	M	A	A P	ß4		F M	E4	M	M	M	F M M M M M	M	f4	M	54	M	M	F M
ranged parents	Age (years) 13 7	0	-	60	69	5 12		80	15	6 12		-	3 14 15	•	9	.0		6	=	•	13	0	10	*	10
						NON	BER	NUMBER OF MICE SURVIVING FROM 12 INOCULATED	ICE S	URVI	DNL	FROM	f 12 I	NOCU	LATE	9									
Mother serums	12 12	12	12 12 12 11 11 12 11 10 11 12		1	=	=	12	-	0	-		1 2		=	8 11 12 12	12		6 12 12 11 11 12	12	=	=	12	12	11 12
		9		10 10 11		0			•	-	-	_	61 61 61 61	-	-	5	10		5						

	(Sex	St.	M	M	4	F	M	MF	M	M	M	14	(h)	14	M	54	M	M	M	M	M	fr <sub>4</sub>	M	fis.	M	M	54	M
Paralyzed patients	Age (years)	13	1	0	1	-	60	5 12		8 15		21 13	69	=	15	•	1	.0	9	0	=	0	13	0	20	+	10	00
						1		NUMBER OF MICE SURVIVING FROM 12 INOCULATED	ER C	P MI	OR SO	RVIV	ING	TROM	12 E	NOCU	ATE											1
Mother serums	3 2 2 2 2 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5	12	22	12	12			n n	13	11 2	91			11	. 12	00	=	12	12	9	12	12	=	11	12	12	=	12
Father serums	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	i	-	12	-	12 1	12	8 12	12 11	11 12	-	11	=		0 12	0	6	12	12	i	12	27	-	:	12	=	12	==
Degree of protection	Mothers	‡	# 1	‡ ;		+ +	+ +	++++	+ +	+ +	+ + + + + + + + + + + + + + + + + + + +	‡	‡‡	1 1	‡‡	+ +	‡+	‡ ‡ ‡ ‡ ‡ +	‡‡	+	# #	+ + + + + + + + + + + + + + + + + + + +	+ 1	# 1	‡‡ ‡‡	##	##	##
	(Sex.	×	[h	M	M	_	H	FM	M	A	Dia .	Ph.	<b>A</b>	Sta .	M	×	×	fiz,	×	M		1			1			1
rarayzed pataents	Age (years)	9	13	00	7	7 2 2	11	4		00	00	2 14	23	69	•	69	9	10	•	69		2	A Sacra	(adults)	(adults)	sera	SII	
								NUMBER OF MICE SURVIVING FROM 12 INOCULATED	KER C	N MI	CE SU	RVIV	ING	FROM	12 E	NOCU	CATE	9										
Mother serums	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	=	=	12	2	=	11 11	12 10	10	4 11	=	12	12	12	=	12	-	1	01	12	-	0	0	0	69	0		-
Father serums	1	12	27	1		1	-	•	1			-		1		1	12	12	12	1	-	1						1
Degree of protection.	Mothers	‡‡	‡ !	# 1		‡	+ :	‡	<del>+</del> i	+ +	+     +     +   +   +   +   +   +   +	+ !	+ !	+ !	+ !	Ŧ!	1 ‡	1 ‡	##	# !	1	1	1	1	1	1		1

++ - Strong protection.

+ - Medium protection.

- - Negative.

F - Female.

paralytic cases might be found to show a higher incidence of nonneutralizing serums than would persons of corresponding age from the general population.

The serums for a determination of this point were collected from 42 mothers and 27 fathers of hospitalized paralytic poliomyelitis cases which developed in North Carolina during the 1944 outbreak. When tested with the Lansing strain of poliomyelitis virus in white mice, the serums from 39 mothers neutralized the virus, 3 partially neutralized, and none was negative. Among serums from 27 fathers, 23 neutralized, 3 partially neutralized, and 1 was negative. From tables 1 and 2, it may be seen that the proportion of serums from the mothers and fathers of paralytic cases whose serums neutralized the virus was much higher than was true for the serums of mothers of newly born infants from the general population as studied by Aycock and Kramer (1) and by Armstrong (2). This difference is possibly accounted for in part by the differences in ages of the two groups and by recent exposure in a home or community heavily infected with

At any rate the results give no reason to believe that paralytic cases of poliomyelitis tend to occur among the offspring of parents who are incapable of producing serum antibodies against poliomyelitis virus, at least against one strain. This conclusion is, moreover, apparently in accord with the experimental results in monkeys and mice; in these animals individual variations in susceptibility are marked in the absence of any variation in serum antibodies against the virus.

## SUMMARY

Serums from 42 mothers of paralytic poliomyelitis victims strongly neutralized the virus in 39 instances and partially neutralized in 3 instances, while the serums from 27 fathers strongly neutralized the virus in 23 instances, partially neutralized in 3 instances, and in 1 was negative. These results give no indication that paralytic poliomyelitis is more apt to occur among those whose parents do not readily produce circulating antibodies against the virus.

## REFERENCES

- Aycock, W. L., and Kramer, S. D.: Immunity to poliomyelitis in mothers and the newborn as shown by the neutralization test. J. Exper. Med., 52: 457 (1930).

poliomyelitis virus.

- (2) Armstrong, Charles: Unpublished data, 1941.
  (3) Haas, V. H., and Armstrong, Charles: Immunity to the Lansing strain of poliomyelitis as revealed by the protection test in white mice. Pub. Health Rep., 55: 1061 (1940).
  (4) Brodie, M., Fischer, A. E., and Stillerman, M.: Neutralization tests in poliomyelitis. Sera taken during the acute and convalescent stages of
- the disease and tested with a passage virus and a strain isolated during the 1935 New York City outbreak. J. Clin. Invest., 16: 447 (1937).

# PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

# UNITED STATES

# REPORTS FROM STATES FOR WEEK ENDED JUNE 2, 1945

Summary

A total of 71 cases of poliomeylitis was reported for the current week, as compared with 44 last week, 46 for the corresponding week last year, and a 5-year (1940-44) median of 46. Of the current total 51 cases occurred in 7 States, as follows: Texas 24 (last week 17); Virginia, Georgia, and Utah, 5 cases each; and New Jersey, North Carolina, and South Carolina, 4 cases each. An aggregate of 55 cases occurred in 3 geographic divisions, as follows (last week's figures in parentheses): Middle Atlantic 10 (5), South Atlantic 19 (5), West South Central 26 (18). In the Mountain area 5 cases were reported (in Utah), where only 1 case had been reported since the first week of April. Cumulative figures, by geographic divisions, since the beginning of April are as follows (corresponding figures for last year in parentheses): New England 7 (11), Middle Atlantic 62 (29), East North Central 32 (18), West North Central 9 (12), South Atlantic 64 (36), East South Central 44 (21), West South Central 106 (61), Mountain 7 (7), Pacific 27 (55). The total for the year to date is 811, as compared with 545 for the same period last year, which latter figure was also the 5-year median.

The incidence of meningococcus meningitis declined. A total of 171 cases was reported for the current week, as compared with 182 last week and a 5-year median of 68. States reporting the largest numbers are as follows: Illinois 16, Pennsylvania 14, Texas 12, Michigan and California 11 each, and New York 10. The total for the year to date is 4,875, as compared with 10,883 for the same period last

year and a 5-year median of 1,716.

Among other diseases with current figures above the respective medians are diphtheria, influenza, and scarlet fever. Current figures for measles, smallpox, typhoid fever, and whooping cough are below the medians.

During the week one case of human plague was reported as occurring on the Island of Hawaii on April 26, This is the first case reported

in the Territory of Hawaii this year.

A total of 8,231 deaths was recorded during the week in 92 large cities of the United States, as compared with 8,547 for the preceding week, 8,005 for the corresponding week last year and a 3-year (1942-44) average of 8,138. The total to date is 196,515, as compared with 201,762 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended June 2, 1945, and comparison with corresponding week of 1944 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

	D	phthe	ria		Influen	18		Measles		Menin	gitis, r ococcu	nenin s
Division and State	Wende	eek ed—	Me-	w	eek ed—	Me-	Wende	eek ed—	Me-	We		Me-
	June 2, 1948	June 3, 1944	dian 1940- 44	June 2, 1945	June 3, 1944	dian 1940- 44	June 2, 1945	June 3, 1944	dian 1940- 44	June 2, 1945	June 3, 1944	dian 1940- 44
NEW ENGLAND												100
Maine	0	0	0		1		3	331	113	0	2 2	
New Hampshire	0	0 0 7 0	0				18	61 88	27 88	0	0	1
Vermont Massachusetts	0 2 0 0	7	4				246	810	1,037	. 5	7 0	4
Rhode Island	0	0	0	14	13	1	74	39 345	96 345	11	3	
Connecticut	0	1	0	. 4	******		14	010	010	0		
MIDDLE ATLANTIC							200				-	
New York	16	9	9	14	12	34	118	922 724	1, 144	10	37	18
New Jersey	3	10	10	1		2	51 621	440	949	14	24	12
Pennsylvania		10	10	*****	******		001	****	010		-	
EAST NORTH CENTRAL								00*	900		25	
Ohio	16	3 6	6	6	6	8	73 52	285 162	320 162	7 2	25	1
Indiana		5	16	2	2	9	337	396	396	16	19	1
Illinois Michigan <sup>3</sup>	20	6 2	3	1	1	1	283	503	610	11	9	1
Wisconsin	1	2	1	32	2	19	119	1, 582	1, 582	, 1	. 2	(
WEST NORTH CENTRAL												
Minnesota	2	1	1	. 2		1	20	275	275	0	4	(
lowa	7 0	3	3				49	115	135	1	0	(
Missouri	7	0	2	2 3		******	28	124 34	172 15	7	12	0
South Dakota	0	1	0				9	13	13	0	0	(
Nebraska	1	.5	4	4	2	2	16	149	149	4 0	3	1
Kansas	10	0	1	1	5	2	47	219	358	0	4	2
SOUTH ATLANTIC												1.4
Delaware Maryland 3	1	0	0				4	193	193	2 0	2 5	1
Maryland District of Columbia.	. 6	6	2	*****		1	33 6	193	88	3	0	i
Virginia	2	1	5	88	45	71	25	364	364	7	9	- 2
West Virginia	2	1	3			2	25 42 46	248	108	8 7 0 2	5	- 1
North Carolina	19	9	9	119	157	154	46	569 205	439 105	0	2	1
South Carolina	2 5	2	2	145	7	12	24 22	96	96	0	0	1
Florida	1	2 3	3	*****	******		7	124	124	14	2	0
EAST SOUTH CENTRAL												
Kentucky	2	0	2	1			36	88	88	7	5	1
Tennessee	3	2	2 3	21	15 33	10 31	12	102 148	151 116	4 5	9	1 3
Alabama Mississippi 3	2 3	3	3	13	00	91	0	190	110	1	1	i
WEST SOUTH CENTRAL	1											
		2			64	7	38	92	92	1	1	1
ArkansasLouisiana	2 2	3	2	8	1	il	12	31	31	5	3	i
Oklahoma	4	1	2 2	31	26	26	29	156	57	16	1	1
rexas	25	25	16	482	242	242	345	1,820	562	12	13	3
MOUNTAIN	-		9				0.00					
Montana	1	. 0		19	12	4	7	74	70	1	0	0
daho	0	0	0	*****			9	21	37 32	1	0	0
Wyoming	0	6	6	14	46	31	11 13	77 148	336	0	2	0
New Mexico	0 3 2 0	1	1	5	3		7	44	45	0	200	0
Arizona	0	0	1	54	25	40	21	48	48	2 0	0	0
Jtah 3	0	0	0	18	4	1	160	67	94 13	0	3	0
Nevada	0	. 3	0	*****	******		1	21	10		0	
PACIFIC								0.00	0.00			
Washington	9	4	1	5	3 7	7	137	250 104	250 104	2	2	0
Oregon	17	17	13	10	22	33	1, 308	3, 325	741	11	27	3
Total	211	158	174	1, 095	750	754	4, 594	16, 130		171	274	68
I Utal								537, 630				

<sup>1</sup> Corrections: Rhode Island, week ended May 19, influenza 26 cases (instead of 0) plus 101 delayed; measles 12 cases (instead of 1) plus 23 delayed. Meningococcus meningitis, week ended May 12, Florida 7 cases (instead of 0); Oklahoma 1 case (instead of 0); week ended May 19, Rhode Island 1 case (instead of 0).

3 New York City only.

3 Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended June 2, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

	Pol	iomyel	itis	86	carlet fer	ver	8	mallpo	x	Typho typl	oid and	i para ver 4
Division and State	We		Me-	w	eek ed—	Me-	wende	eek ed—	Me-	Wende	eek ed—	Me-
	June 2, 1945	June 3, 1944	dian 1940- 44	June 2, 1945	June 3, 1944	dian 1940- 44	June 2, 1945	June 3, 1944	dian 1940- 44	June 2, 1945	June 3, 1944	dian 1940- 44
NEW ENGLAND											0	
Maine	0	0	0	52		10	0	0	0	1	0	0
New Hampshire Vermont	0	0	0	16		10	0	0	0	0	0	0
Massachusetts	0	2	0	255		221	0	0	0	0	6	4
Rhode Island Connecticut	0	1 2 0 1	0	\$ 13 58	8	8 52	0	0	0	. 0	0	0
MIDDLE ATLANTIC												
New York	3	9	0	543	389	388	0	0	0	3	3	5
New Jersey Pennsylvania	4 3	1	0	109 442	145 285	144 271	0	0	0	0	0	1
EAST NORTH CENTRAL												
Ohio	0	2	0	300	426	232	0	0	0	2 3	0	1 2
Indiana	1	2 0 2 1	0	75	85	81 179	0	0	1	3	2	2
Illinois	0	1	0	232 254	221 222	182	0	1 0	4 0	0	2 2	0
Wisconsin	o	ô	ő	254	253	111	0	ő	2	0	ō	0
WEST NORTH CENTRAL		4.7										
Minnesota	0	1	0	77	118	51	0	0	0	0	2	0
Iowa		0	0	26	51	26	0	0	0	0	2	1
Missouri	0 0 0 0	0	0	70	47	47	2 0 3	1 0	1 0	0 4 0	2 2 3 0	6
North Dakota	ő	0	0	15 11	5 18	2 12	3	0	0	0	0	0
Nebraska	0	ő	o	48	54	15	0		1 0	0	1	0
Kansas	0	0	0	53	43	42	1	1	0	1	0	0
SOUTH ATLANTIC							- 1				1	
Delaware	0	0	0	1	4	4	0	0	0	0	0	0
Maryland 2 District of Columbia	0	1 0	0	115	94 35	67	0	0	0	1 0	0	2
Virginia	0 0 0 5	o	0	25 55	36	20	0	0	o	1		1
West Virginia North Carolina	1	0	0	33	50	20 20 16	0	0	0	10	1 0 2 6	3
North Carolina	84	0	0	74	25	16	0	0	0	2	2	3
South Carolina Georgia	4 5	1	0	12 30	33	10	1	0	0	10	5	9
Florida	8	3	3	3	5	4	ō	O	0	2	3	3
EAST SOUTH CENTRAL												
Kentucky	1	2	0	24	27	29	0	2	1	1	0	2
Tennessee	0	0	0	11	59	44	0	0	3	3	1	2 2
Alabama Mississippi <sup>1</sup>	3	2	0	9	5	7 3	0	0	0	13	0	1
WEST SOUTH CENTRAL	1	1	1	٩	9	°	4	4	9	-	1	•
		0		-				0				
ArkansasLouisiana	0	0 5	0	5	4	4 5	0	0	4	5	2 7	4 7
Oklahoma	1 24	5	0	8	6	10	0	0	0	0	2 8	1
Texas	24	3	3	56	146	20	0	0	0	6	8	10
MOUNTAIN												
Montana	0	0	0	15	14	9	0	0	0	0	1	1
Idaho	0	0	0	15	33	.7	0	0	0	0	0	0
Wyoming Colorado	0	0	0 0 0	36	16 56	11 29	0	0	0	0 2	0	0
New Mexico	0	0	0	4	6	2	0	0	0	0	0	0
Arizona	0 0 0 0 0 8	0	0	4 24	9	5	0	0	0 0 0	2	0	0
Utah 1	5	0	0	9	34 13	5 9 0	0	0	0	0	0	0
Nevada	0	0	0	0	13	0	0	0	0	0	*	0
Washington	0	0	0	56 22	120 71	22	0	1	0	2	1	1
California	3	5	1 7	313	252	105	0	0	o	4	9	5
Total	71	46	46	3, 889	3, 870	2,844	7	7	36	79	83	121
		-										
22 weeks	8811	545	545	116,713	132, 109	85, 342	223	248	544	1, 321	1,686	1,823

Period ended earlier than Saturday.
 Including paratyphoid fever reported separately as follows: New York 1; Ohio 1; Texas 1; California 1.
 Corrections: Poliomyelitis, North Carolina, week ended May 12, 0 (instead 1). Scarlet fever, Rhode Island, week ended May 19, 17 cases (instead of 15) plus 17 delayed.

Telegraphic morbidity reports from State health officers for the week ended June 2, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

	Wh	ooping o	ough			We	ek ende	d June 2	, 1945		
Division and State	end	eek ed—	Me- dian	D	ysent	егу	En- ceph- alitis,	Rocky Mt.	Tula-	Ty-	Undu
	June 2, 1945	June 3, 1944	1940-	Ame- bic	Bacil	un- speci- fied	alitis, infec- tious	spot- ted fever	remia	phus	lant fever
NEW ENGLAND											
Maine New Hampshire Vermont. Massachusetts Rhode Island Connecticut	68 0 13 114 22 35	17 1 19 39 6 21	19 4 15 130 19 33	0000	0	0 0	0000	0 0 0 0 0	0000	0 0 0	000000000000000000000000000000000000000
MIDDLE ATLANTIC											
New York New Jersey Pennsylvania	192 82 137	93 30 56	227 73 238	3 0 1	0	0	0 0 1	2 0 0	0	0	613
EAST NORTH CENTRAL											
OhioIndianaIllinois	91 9 76 60 38	110 30 34 77 81	146 47 101 164 113	0 1 2 0 0	0000	0	0 1 0 0	0 0 1 0	0 0 1 0	0 0 0	2 1 9 8 4
WEST NORTH CENTRAL									. 1		
Minnesota	3 3 11 1 3 0	13 10 26 5 8 17	41 26 28 5 4	00000	000000000000000000000000000000000000000	0 0	0 0 0	0 2 0 0 0	0 0 1 0 0 0	0000	3 0 2 0 1 0
Kansas	32	46	63	ō	0		Ö	Ö	ő	0	1
SOUTH ATLANTIC											
Delaware Maryland  District of Columbia. Virginia. North Carolina. South Carolina. Georgia. Florids.  EAST SOUTH CENTRAL	0 83 11 38 4 194 71 37 17	0 32 1 64 29 116 76 20 21	1 81 10 64 57 116 76 24 21	0 0 1 0 1 13 0	0 0 0 0 0 12 16 1	0 0 0 42 0 0 0	0	0 5 0 0 1 2 0 1	0 0 0 0 0 0 1 1	0 0 0 0 1 4 3 6 17 10	0 0 0 2 0 0 1 2
Kentucky	34	56	65	0	0	. 0	0	0	1	0	0
TennesseeAlabama	6 15	61 37	48	0	0	0 0	0	0	0 0 2	9	0 2
WEST SOUTH CENTRAL									1		
Arkansas Louislana Oklahoma Texas	12 2 11 330	13 2 15 297	17 2 15 297	0 2 1 13	5 0 0 439	0 0 0 43	0	0 0 1	6 0 0	0 5 0 35	1 0 1 26
MOUNTAIN											
Montana daho.  daho.  Wyoming Dolorado.  New Mexico.  Arizona Juhah 2  Nevada.	1 4 1 26 8 15 21 0	2 11 10 256 0 22 51 20	12 11 3 24 5 22 51	0 0 0 0 0 0	000000000000000000000000000000000000000	0 0 0 1 26 0	0 0 0 0 1 0 0	0 0 3 4 0 0	0 0 1 0 0 0 0 5	0	0 0 2 0 0 3
PACIFIC						1	1			7	
Vashington Oregon California	15 17 403	16 4 99	41 22 365	0 1 1 1	0 0 2	0	0 0 2	0	0	0	1 3 5
Total	2, 366	2,070	3, 765	43	483	114	9	24	20	90	100
1944	2, 070 3, 219 54, 758 39, 767 71, 030		84, 303	28	556 342	94 94 2, 518 1, 643 1, 270	16 14 149 241 224	25 7 21 4 75 71 7 102	17 18	57 7 35 1, 173 999 7 783	76 1, 967 1, 333

Period ended earlier than Saturday. Delayed report: Maryland, Rocky Mountain spotted fever 1 case. Correction: North Carolina, week ended May 12, typhus fever 1 case (instead of 2).

Anthrax: Pennsylvania i case.

# 718

# WEEKLY REPORTS FROM CITIES

City reports for week ended May 26, 1945

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	CHSCS	8年	Influ	enza		men-	aths	Cases	CORRECT	-	i para-	cough
	Diphtheria cu	Encephalitis, in- fectious, cases	Cases	Deaths	Measles cases	Meningitis, men- ingococcus,	Pneumonia deaths	Poliomyelitis	Scarlet fever c	Smallpox cases	Typhoid and p typhoid fe	Whooping on
NEW ENGLAND									,			
Maine: Portland	0	0		0	0	0	2	0	0	0	0	
New Hampshire:												
Concord Vermont:	0	0		0	1	0	0	0	2	0	0	0
Barre	0	0		0	15	0	1	0	0	0	0	0
Massachusetts: Boston	2	0		0	131	4	9	0	62		0	90
Fall River Springfield	0	0		0	2	0	0	0	2	0	0	29
Springfield	0	0		0	1	1	1	0	17	0	0	0
Worcester Rhode Island:	0	0		0	18	0	11	0	16	0	0	
Providence	0	0		0	4	0	4	0	3	0	0	20
Connecticut: Bridgeport	0	0		0	0	0	3	0	3	0	0	
Hartford	0	0		0	45	0	2	0	6	0	0	0 2 5
New Haven	. 0	0		0	2	0	1	0	2	0	0	5
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0		2	5	2	3	1	18	0	0	0
New YorkRochester	10	0	3	0	74 19	14	56	0	285	0	0	87
Syracusa	0	0		. 0	0	- 0	56 2 5	0	9 8	0	0 2 0	11 29
Syracuse		-		-	2							
Camden	0	0		0	3 2	1 3	1 2	0	26	0	0	10
Trenton	0	0	1	0	6	0	2	0	4	0	0	10
Pennsylvania:		-			~		-			-		
Philadelphia	4	0		0	350	2	20	0	63	0	4 0	113
Pittsburgh Reading	0	0		0	7 3	0	6	0	11	0	0	20
EAST NORTH CENTRAL												
Ohio:												
Cincinnati Cleveland	0	0		0	5	5	4	1	12	0	0	2
Columbus	0	0	2	0	18	1	7	0	56	0	0	33
		-	-1	- 1	-					-		
Indianapolis South Bend	2	0		1	10	3	8	0	21	0	0	14
Terre Haute	0	0		0	1	0	0 2	0	8	0	0	0
V1114		-					- 1			-		
Chicago	1	0	1	0	204	13	28	0	130	0	0	17
Michigan:	0	0		0	1	1	2	0	5	0	0	0
	13	0	1	0	183	8	7	0	123	0	0	29
FlintGrand Rapids	0	0		0	16	0	2	0	20	0	0	5
Wisconsin:	0	0		0	2	0	0	0	10	0	0	0
Kenosha	0	0		0	3	0	0	0	4	0	0	C
Milwaukee	0	0		0	13	2	7	0	80	0	0	2
Racine Superior Superior	0	0		0	6	0	0	0	5 2	0	0	1 0
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0		0	0	0	8	0	4	0	0	5 2
Minneapolis	0	0		0	13	1	8	0	23	0	0	8

# City reports for week ended May 26, 1945-Continued

	CRESCS	th-	Influ	enza		men- cus,	esth	cases	cases	28	para	danco
	Diphtheria c	Encephalitis, in- fectious, cases	Oases	Deaths	Measels cases	Meningitis, 1 ingococc	Pneumonia desths	Poliomyelitis	Scarlet fever	Smallpox cases	Typhoid and i	Whooping o
WEST NORTH CENTRAL— continued												
Missouri: Kansas City	0	0			9							-
St Tosanh	0	0		0	0	2	9	0	15	0	0	
St. Louis	1	0		0	15	9	11	0	23	0	0	1
Fargo	0	0		0	1	0	1	0	4	0	0	
Nebraska: Omaha	1	0		0	12		0	0	24	0	0	
Kansas:				0	12	1		0	-	U	0	
TopekaWichita	0	0		0	0	0	3	0	8	0	0	1
SOUTH ATLANTIC							-					
Delaware:												
Wilmington Maryland:	1	0	*****	0	0	0	0	0	1	0	0	0
Baltimore	3	0	1	0	9	3	10	0	57	0	0	48
Cumberland Frederick	0	0	*****	0	0	0	0	0	. 6	0	0	6
District of Columbia:			*****									
Washington Virginia:	0	0	*****	0	6	1	6	0	30	0	0	14
Lynchburg Richmond	0	0		0	2 5	0	0	0	5	0	0	0
Richmond Roanoke	0	0	*****	0	5	1 0	3	0	5	0	1 0	4
West Virginia:					-				1			
West Virginia: Charleston Wheeling	0	0		0	0 2	0	0	0	1	0	0	0
NOTED CATORDA:	0	0		0			0	0	4	0	0	*
Raleigh Wilmington	0	0		0	12	0	3	0	2	0	0	17
w inston-oatem	0	0		0	7	0	1	0	9	0	0	12
South Carolina:		0			-				-			
Charleston	0	0		0	2	0	1	1	0	0	0	0
AtlantaBrunswick	0	0	*****	0	0	0	1	0	12	0	0	0
Savannah	0	0		0	3	0	1	0	0	0	0	0
Florida:												-
Tampa	0	0		0	3	0	3	0	0	0	2	1
EAST SOUTH CENTRAL								- 1				
Tennessee: Memphis	0	0		0	45	0	13	0	9	0	0	14
Nashville	0	0		0	1	0	1	0	6	0	0	0
Alabama: Birmingham	1	0		0	0	0	6	0	3	0	0	
Mobile	o	0		1	0	0	1	0	1	0	o l	3
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0		0	12	0	0	0	1	0	0	0
Louisiana: New Orleans	1	0		ó	10	0	8	1	11	0	0	3
Shreveport	ô	0		0	0	0	1	ô	3	0	0	. 0
Texas: Dallas	1	0		0	11	0	4	0	3	0	0	6
Galveston	1 0 1	0		0	0	0 0 1	0	3 1	3 0 4	0	0	2
Houston	0	0	3	0	1 1	0	0 2 2	0	3	0	0	0 0
MOUNTAIN	1	"	-	"	1	"	-				"	
Montana: Billings	0	0 .		0	1	0	0	0	8	0	0	0
Great Falls	0	0 .		0	1 0 1	0	1 0	0	0	0	0 1 0	0
Helens	0	0 -		0	0	0	0	0	0	0	0	0

# City reports for week ended May 26, 1945-Continued

	Ses	in-	Influ	enza		men-	eaths	Cases	anses	99	para- fever	cough
=	Diphtheria cases	Encephalitis, in- fectious, cases	Cases	Deaths	Measles cases	Meningitis, 11 ingococc	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and I typhoid fecases	Whooping c
MOUNTAIN—continued												
Idaho:				_								
Boise	0	0		0	0	0	0	0	0	0	0	0
Denver	3	0	2	0	6	0	6	0	9 2	0	0	8 2
PuebloUtah:	0	0		0	1	0	0	0	2	0	0	2
Salt Lake City	0	0		0	140	0	0	0	6	0	0	13
PACIFIC												
Washington: Seattle												
Seattle	0 1	0		0	29	0	0	1	8	0	0	1 0
Spokane	0	0		0	10	0	0	0	6	0	0	1
TacomaCalifornia;	1	0		0	29	0	1	0	0	U	0	0
Los Angeles	1	0	4	0	75	1	4	0	68	0	0	64
Sacramento	0	ő		0	23	1 0	4 4	0	68 17	0	0	7
San Francisco	1	0	3	0	140	1	6	0 0	41	0	0	9
Total	52	1	22	5	1, 795	87	322	12	1,543	0	10	716
Corresponding week, 1943.	58		26	16	4,090		321		1, 567	0	13	359
Average, 1940-44	58		49	1 17	25, 242		1 318		1,340	1	19	1,054

<sup>&</sup>lt;sup>1</sup> 3-year average, 1942–44. <sup>2</sup> 5-year median, 1940–44.

Colorado tick fest.—Cases: Denver, 1.

Dysentery, amebic.—Cases: New York, 3; Los Angeles, 1.

Dysentery, bacillary.—Cases: New York, 2; Chicago, 1; Charleston, S. C., 29; Los Angeles, 1.

Dysentery, unspecified.—Cases: Indianapolis, 2; San Antonio, 26.

Leprosy.—Cases: New Orleans, 1.

Typhus fest, endemic.—Cases: Atlanta, 1; Birmingham, 2; Little Rock, 2; New Orleans, 1; Dallas 1; Houston, 2; San Antonio, 2.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,278,400)

	rates	s, infec-	Influ	enza		ngo-	rates	rates	ates		paraty-	CBSe
	Diphtheria case ra	Encephalitis, ir tious, case rate	Case rates	Death rates	Measles case rates	Meningitis, meningo- coccus, case rates	Pneumonía desth	Pollomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and par phoid fever case	Whooping cough
New England	5. 2 6. 9	0.0	0.0	0.0	572 217	13.1	88.9 44.9	0.0	295 220	0.0	0.0	162 128
East North Central	10.5	0.0	3.1	1.2	287	21.6	37.0	0.6	302	0.0	0.0	128 68 46
West North Central	6.0	0.0	0.0	0.0	103 85	29.8 8.2	77.6	0.0	243 217	0.0	0.0 4.9	180
South Atlantic East South Central	5.9	0.0	0.0	0.0 5.9	271	0.0	123.9	1.6	112	0.0	0.0	100
West South Central	8. 6	0.0	8.6	0.0	100	2.9	48.8	14.3	72	0.0	0.0	100 32
Mountain	23.8	0.0	15.9	0.0	1, 191	0.0	55. 6	0.0	175	0.0	7.9	183
Pacific	6. 3	0.0	11.1	0.0	484	3.2	25. 3	1.6	228	0.0	0.0	131
Total	7.9	0.2	3.4	0.8	274	13.3	49.1	1.8	235	0.0	1.5	109

# TERRITORIES AND POSSESSIONS

# Hawaii Territory

Plague (human).—One case of human plague was reported on April 26, 1945, in Hamakua, Island of Hawaii, T. H. The patient is a 39-year-old male. Diagnosis has been confirmed. This is the first case of human plague reported in Hawaii Territory for the year 1945 to date. During the year 1944, 5 cases of plague including 1 case of pneumonic plague, all of which proved fatal, were reported in Hamakua District, Island of Hawaii, T. H.

#### Puerto Rico

Notifiable diseases—4 weeks ended May 19,1945.—During the 4 weeks ended May 19, 1945, cases of certain notifiable diseases were reported in Puerto Rico as follows:

Disease	Cases	Disease	Cases
Bilharziasis. Chickenpox. Diphtheria. Dysentery, unspecified. Filariasis. Gonorrhea. Influenza. Leprosy. Malaria. Measles.	9 103 33 57 2 321 88 1 406 213	Mumps. Ringworm. Syphilis. Tetanus. Tetanus, Infantile. Trachoma. Tuberculosis (all forms). Typhoid and paratyphoid fever. Typhus fever (murine).	39 66 44 21 13

# DEATHS DURING WEEK ENDED MAY 26, 1945

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

		Correspond- ing week, 1944
Data for 93 large cities of the United States:  Total deaths.  Average for 3 prior years.  Total deaths, first 21 weeks of year.  Deaths under 1 year of age.  Average for 3 prior years.  Deaths under 1 year of age, first 21 weeks of year.  Data from industrial insurance companies:  Policies in force.  Number of death claims.  Death claims per 1,000 policies in force, annual rate.  Death claims per 1,000 policies, first 21 weeks of year, annual rate.	9, 033 8, 600 199, 034 572 593 13, 042 67, 327, 158 13, 902 10. 8 11. 0	8, 638 205, 326 612 13, 181 66, 565, 613 13, 600 10, 7

# FOREIGN REPORTS

## CANADA

Provinces—Communicable diseases—Week ended May 12, 1945.—During the week ended May 12, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Bruns- wick	Que- bec	On- tario	Mani- toba	Sas- katch- ewan	Al- berta	British Colum- bia	Total
Chickenpox Diphtheria Dysentery, bacillary		7 3	1	96 23	284 3	45 2	11 2	27 1	94	564 35
German measles Influenza Measles Meningitis, meningococ-		3 29 14		13*	43 65 251	1 1 23	95	37	30 11 239	101 106 774
cus Mumps Poliomyelitis		ii	1	73	234	37	31	94	27	507
Scarlet fever. Tuberculosis (all forms) Typhoid and para-		7 5	20 2	58 44	78 63	15 5	8	27 12	18 10	227 149
typhoid fever Undulant fever Venereal diseases:				8	1	i		1		11
Gonorrhea	·····2	20 24 6	8 11	59 78 86	77 51 37	21 2 2	16 1 4	33 7 9	28 13 5	262 189 149

#### ITALY

Sicily—Typhoid and paratyphoid fever.—For the month of March 1945, 237 cases of typhoid and paratyphoid fever were reported in Sicily, Italy. For the month of April 1945, 227 cases of the same diseases were reported.

Sicily—Undulant fever.—For the month of March 1945, 148 cases of undulant fever were reported in Sicily, Italy. For the month of April 1945, 285 cases of the same disease were reported.

#### **JAMAICA**

Notifiable diseases—4 weeks ended May 5, 1945.—During the 4 weeks ended May 5, 1945, cases of certain notifiable diseases were reported in Kingston, Jamaica, and in the island outside of Kingston, as follows:

Disease	Kings- ton	Other localities	Disease	Kings- ton	Other localities
Cerebrospinal meningitis	1 44 13 7	73 3 15 1	Leprosy. Puerperal sepsis. Tuberculosis. Typhoid fever. Typhus fever (murine).	34 5 4	2 1 58 110

# NEW ZEALAND

Notifiable diseases—4 weeks ended April 21, 1945.—During the 4 weeks ended April 21, 1945, certain notifiable diseases were reported in New Zealand as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Actinomycosis Cerebrospinal meningitis Diphtheria Dysentery, bacillary Erysipelas Food poisoning Lead poisoning Malaria	1 17 98 40 19 1 1	6	Ophthalmia neonatorum Puerperal fever. Scarlet fever. Tetanus. Trachoma. Tuberculosis (all forms) Typhoid fever. Undulant fever.	2 4 618 2 3 167 2 3	38

#### SWEDEN

Notifiable diseases—February 1945.—During the month of February 1945, cases of certain notifiable diseases were reported in Sweden as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	7 284 63 1, 152 785 5	Poliomyelitis. Scarlet fever. Syphilis. Typhold fever. Undulant fever. Well's disease.	1, 790 138

# REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-named diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday of each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

# Plague

Basutoland.—For the week ended March 17, 1945, 4 cases of plague with 3 deaths were reported in Basutoland.

British East Africa—Kenya—Nyeri District.—On May 10, 1945, 1 fatal case of plague was reported in Nyeri District, Kenya, British East Africa. On May 15, 1945, plague infection in rodents was also reported in the same locality.

Egypt.—For the week ended April 21, 1945, 12 cases of plague were reported in Egypt.

Morocco (French).—For the period May 11-20, 1945, 32 cases of plague were reported in French Morocco.

# **Smallpox**

British East Africa—Tanganyika.—For the week ended April 21, 1945, 1,200 cases of smallpox with 10 deaths were reported in Tan-

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ganyika, British East Africa, including 1,108 cases of smallpox with 4 deaths reported in the South Highlands Province of Tanganyika.

Mexico.—For the month of March 1945, 271 cases of smallpox were reported in Mexico. States reporting the highest incidence of the disease are as follows: Guanajuato, 123 cases including 23 cases in the city of Leon; Vera Cruz, 68 cases including 18 cases in Tuxpan; Hidalgo, 26 cases; Zacatecas, 18 cases; Jalisco, 16 cases.

Nigeria.—For the week ended March 31, 1945, 195 cases of small-pox with 11 deaths were reported in Nigeria. For the week ended April 7, 1945, 198 cases of smallpox with 35 deaths were reported in

the same place.

Rhodesia, Northern.—For the week ended April 28, 1945, 219 cases of smallpox with 1 death were reported in Northern Rhodesia.

# **Typhus Fever**

Bulgaria.—For the week ended May 5, 1945, 27 cases of typhus fever were reported in Bulgaria.

Egypt.—For the week ended April 21, 1945, 922 cases of typhus fever were reported in Egypt. For the week ended April 7, 1945, 95 cases of typhus fever with 6 deaths were reported in Cairo, 32 cases with 1 death were reported in Alexandria, 2 cases in Port Said, and 1 case

in Ismailiva, Egypt.

Guatemala.—For the month of April 1945, 172 cases of typhus fever with 11 deaths were reported in Guatemala. Departments reporting the highest incidence are as follows: Alta Verapaz, 46 cases, 2 deaths; El Quiche, 28 cases, 1 death; Guatemala, 26 cases; Totonicapan, 21 cases, 4 deaths; San Marcos, 17 cases, 3 deaths.

Iran.—For the week ended February 17, 1945, 68 cases of typhus

fever were reported in Iran.

Iraq —For the week ended May 26, 1945, 18 cases (including 1 case

in Baghdad) of typhus fever were reported in Iraq.

Mexico.—For the month of March 1945, 299 cases of typhus fever were reported in Mexico. The States reporting the highest incidence are as follows: Federal District, 51 cases; Nuevo Leon, 41; Mexico, 37; Queretaro, 32; Hidalgo, 29; Puebla, 27.

Morocco (French).--For the week ended May 20, 1945, 215 cases of typhus fever were reported in French Morocco, including 5 cases in

Casablanca, and 2 cases in Rabat.

Peru.—For the month of March 1945, 52 cases of typhus fever were reported in Peru. Departments reporting the highest incidence are as follows: Cuzco, 27 cases; Huanuco, 9 cases; Tacna, 5 cases.

Turkey.—For the week ended May 26, 1945, 61 cases of typhus fever were reported in Turkey, including 3 cases in Istanbul, 1 case in Ankara, 1 case in Samsun, and 2 cases in Zonguldak.

# FEDERAL SECURITY AGENCY UNITED STATES PUBLIC HEALTH SERVICE

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DIVISION OF PUBLIC HEALTH METHODS

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